

C L A I M S :

1. A process for preparing and/or setting air- and steam-permeable structural members (4) containing a mixture of thermoplastic binder and natural fibers and/or artificial fibers with or without additional foam in the form of flakes and/or granules, characterized in that said structural member (4) in a pressure-resistant chamber between shaping surfaces with a low or no heat transfer to or from the mold, after deaerating the chamber by applying a vacuum within a range of from 0.5 to 0.01 bar absolute, is pressurized by a vaporous heat-transfer medium within a pressure range of from 2 to 10 bar absolute, and in a further process step, a vacuum is applied within a range of from 0.5 to 0.1 bar absolute to evaporate the condensed heat-transfer medium.
2. The process according to claim 1, characterized in that the heat transfer per unit mass of the structural member between the vaporous heat-transfer medium and the shaping surface and/or the base during the cycle is lower than $250 \text{ m}^2/\text{s}^2$ per 1 m^2 of surface of the structural member and per 1 K of heating of the structural member during the process.
3. The process according to claim 1, characterized in that a structural members (4) is employed which consists of at least one layer, especially two or more layers, of the same or different material compositions.
4. The process according to claim 1 or 3, characterized in that a contour-defining thin shell of a perforated and/or non-perforated metal sheet and a steam-impermeable solid mold base with a steam-channeling space between is employed as a mold for shaping.
5. The process according to any of claims 1 to 4, characterized in that at least one perforated or non-perforated metal sheet which is at a distance of from 2 to 20 mm from the mold base is employed as the shaping contour.

6. The process according to any of claims 1 to 4, characterized in that a layer of a material having a low thermal conductivity, especially PTFE, EPDM, epoxy resin or phenolic resin, applied to the mold base in a layer thickness of from 1 to 30 mm is employed as the shaping contour.
7. The process according to any of claims 1 to 4, characterized in that a pressure-resistant mold base made of a processed solid material, especially aluminum or steel, is employed.
8. The process according to any of claims 1 to 4, characterized in that a pressure-resistant mold base made of a processed cast material, especially of grey cast iron or cast aluminum, is employed.
9. The process according to any of claims 1 to 8, characterized in that a heat-transfer oil or heating water is employed as the heat-transfer medium flowing through bores (7) or pipe coils for bringing the temperature to from 120 to 180 °C.